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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,733	06/24/2003	Neal W. Meyer	200208150-1	3294

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EXAMINER

TALBOT, BRIAN K

ART UNIT PAPER NUMBER

1762

DATE MAILED: 04/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/603,733

Applicant(s)

MEYER ET AL.

Examiner

Brian K. Talbot

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/24/03.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

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1. Claims 1-27 remain in the application.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4,13,16 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claims 4,13 the term “the particles” is confusing. It is unclear which particles or both are being referred to. The first or second particles?

With respect to claim 16,18 the term “the electrode” is confusing. It is unclear which electrode or both is being referred to. The fuel cell electrode on the substrate or the applied particles that form an electrode?

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,4-6,10,11,13-15,19,20 and 22-24 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Ruka et al. (5,908,713).

Ruka et al. (5,908,713) teaches a sintered electrode for solid oxide fuel cells. An underlayer is applied to the electrolyte of a solid oxide fuel cell and dried. An overlayer is applied to the underlayer and dried. Then both layers are sintered to form the electrode layer atop the electrolyte of the fuel cell (see abstract and col. 4, lines 35-50). The overlayer and underlayer are applied by spraying or dipping the slurries comprising suspensions of solid particles of the electrode metal and YSZ. The solvent is removed prior to the electrode being sintered (col. 5, line 45 – col. 6, line 50).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3,12 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruka et al. (5,908,713) in combination with Darland, Jr. et al. (3,423,247).

Features described above are incorporated here.

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Ruka et al. (5,908,713) in combination with Darland, Jr. et al. (3,423,247) fails to teach when applying multiple layer that one of the particles is smaller then the second particle.

Darland, Jr. et al. (3,423,247) teaches forming a porous electrode having at least two zones. The electrode is comprised of the two zones whereby the particles in each zone are different in size. The electrode can be used in a fuel cell. (col. 1, line 15 – col. 4, line 55 and Figs. 1 and 2).

Therefore, it would have been obvious for one skilled in the art at the time the invention was made to have modified Ruka et al. (5,908,713) fuel cell electrode by utilizing different sized particles as evidenced by Darland, Jr. et al. (3,423,247) with the advantages associated with their use as detailed in the reference.

Claims 7-9,16-18 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruka et al. (5,908,713) in combination with Pham et al. (US 2004/0018298).

Features described above are incorporated here.

Ruka et al. (5,908,713) fails to teach the substrate being bismuth vanadium or doped ceria and the substrate being porous.

Pham et al. (US 2004/0018298) teaches samarium and gadolinium doped ceria oxides are commonplace ion the art in forming ceria based solid oxide fuel cells (Abstract and col. 2 [0025])

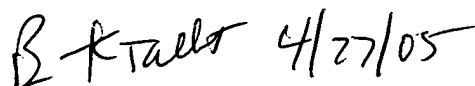
Therefore it would have been obvious for one skilled in the art at the time the invention was made to have modified Ruka et al. (5,908,713) fuel cell electrode with the materials cited in Pham et al. (US 2004/0018298) with the expectation of achieving similar results.

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian K. Talbot whose telephone number is (571) 272-1428. The examiner can normally be reached on Monday-Friday 6AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 4/27/05  
Brian K Talbot  
Primary Examiner  
Art Unit 1762

BKT